

WE CLAIM:

1 1. A composition which is free of precursor of
2 at least one carcinogenic nitrosamine containing at least
3 one rubber selected from the group consisting of natural
4 rubber, polyisoprene, polybutadiene, styrene-butadiene/^{copolymers},
5 styrene-isoprene/^{copolymers} and butadiene-isoprene copolymers, and
6 styrene-butadiene-isoprene terpolymers, and capable of
7 vulcanizing at a temperature between 95°C and 140°C, charac-
8 terized by the fact that it comprises, as vulcanization
9 system:

10 a) sulfur;
11 b) at least one accelerator compound
12 selected from the group consisting of benzothiazyl disulfide
13 and mercaptobenzothiazole;
14 c) at least one ultra-accelerator compound
15 selected from the group consisting of tetrabenzylthiuram
16 disulfide and zinc dibenzylidithiocarbamate;
17 d) at least one vulcanization amine
18 activator selected from the group consisting of amines,
19 guanidines, aldehyde and amine condensates, and quaternary
20 ammonium salts.

1 2. A composition according to Claim 1, charac-
2 terized by the fact that it contains natural rubber or a
3 mixture of natural rubber and at least one other rubber
4 selected from the group consisting of polyisoprene,^{copolymers},
5 polybutadiene, styrene-butadiene/^{copolymers}, styrene-isoprene/^{copolymers} and
6 butadiene-isoprene copolymers, and styrene-butadiene-
7 isoprene terpolymers.

1 3. A composition according to Claim 1, charac-
2 terized by the fact that it contains at least one additive
3 selected from the group consisting of carbon blacks,
4 extender oils, and tackiness agents.

1 4. A composition according to Claim 1, charac-
2 terized by the fact that, for 100 parts by weight of the
3 rubber or all the rubbers, the amount of sulfur is between
4 0.5 and 5 parts by weight.

1 5. A composition according to Claim 4, charac-
2 terized by the fact that, for 100 parts by weight of the
3 rubber or of all the rubbers, the amount of sulfur is
4 between 1 and 3 parts by weight.

1 6. A composition according to Claim 1, charac-
2 terized by the fact that, for 100 parts by weight of the
3 rubber or all the rubbers, the amount of compound b) or all
4 the compounds b) is between 0.1 and 3 parts by weight.

1 7. A composition according to Claim 6, charac-
2 terized by the fact that, for 100 parts by weight of the
3 rubber or of all the rubbers, the amount of compound b) or
4 all compounds b) is between 0.2 and 2 parts by weight.

1 8. A composition according to Claim 1, charac-
2 terized by the fact that, for 100 parts by weight of the
3 rubber or all the rubbers, the amount of compound c) or all
4 the compounds c) is between 0.2 and 3 parts by weight.

1 9. A composition according to Claim 8, charac-
2 terized by the fact that, for 100 parts by weight of the
3 rubber or all the rubbers, the amount of compound c) or all
4 compounds c) is between 0.4 and 2 parts by weight.

1 10. A composition according to Claim 1, charac-
2 terized by the fact that, for 100 parts by weight of the
3 rubber or all the rubbers, the amount of compound d) or of
4 all compounds d) is between 0.05 and 1 part by weight.

1 11. A composition according to Claim 10, charac-
2 terized by the fact that, for 100 parts by weight of the
3 rubber or all the rubbers, the amount of compound d) or of
4 all compounds d) is between 0.1 and 0.5 parts by weight.

1 12. A composition according to Claim 1, charac-
2 terized by the fact that it comprises diphenylguanidine as
3 compound d).

1 13. A composition according to Claim 1, charac-
2 terized by the fact that it is capable of vulcanizing at a
3 temperature of between 95°C and 115°C.

07/09/95 1 14. A composition according to Claim 1, charac-
2 terized by the fact that it is intended to be used in order
3 to connect two prevulcanized parts of rubber, the
4 composition serving as connecting rubber between said parts.

1 15. A composition according to Claim 14, charac-
2 terized by the fact that it is intended to be used in order
3 to manufacture a new tire.

1 16. A composition according to Claim 14, charac-
2 terized by the fact that it is intended to be used in order
3 to repair and/or recap a worn tire.

1 17. A process consisting of vulcanizing a compo-
2 sition according to Claim 1 at a temperature of between 95°C
3 and 140°C.

1 18. A process according to Claim 17, charac-
2 terized by the fact that the vulcanization is carried out
3 at a temperature between 95°C and 115°C.

1 19. A process according to Claim 17, charac-
2 terized by the fact that it includes vulcanizing the
3 composition to connect two prevulcanized parts of rubber,
4 the composition serving as connecting rubber between said
5 parts.

1 20. A process according to Claim 19, charac-
2 terized by the fact that it includes vulcanizing the
3 composition in the manufacture of a new tire.

1 21. A process according to Claim 19, charac-
2 terized by the fact that it includes vulcanizing the
3 composition in the repair and/or recapping of a worn tire.